Hopper Ullage Check

The Contracting Officer's Representative will periodically check the reported hopper ullage using a tape measure or other distance measuring device. The Contractor shall have on the dredge a clearly readable weighted tape, marked in tenths of a foot, capable of measuring throughout the full range of hopper depth. The weight for this tape shall be a 6-inch diameter disk weighing between 2 and 3 pounds. The Contracting Officer's Representative will review the hopper ullage data to insure that the system is operating within acceptable accuracy (0.1 foot), directing the contractor to re-calibrate or repair system components as necessary. This check may be performed separately or as a part of the Water Load Test (or Hydro).

Purpose: To verify accuracy of hopper ullage sensors.

Materials Required:

1) Hopper Ullage Check form.
2) Weighted tape, marked at intervals of a tenth of a foot.
3) Handheld radio to communicate with bridge

Procedure:

With hopper cleaned out as much as possible, measure the ullage (distance from top of hopper to surface of the residual material/water) as closely as possible to the fore and aft ullage sensors. If it is not possible to take an ullage at the sensor location then a reading shall be taken port and starboard of the sensor and then averaged. At each location, the weighted tape shall be lowered until the weight touches the fluid surface and the measured distance and corresponding DQM system displayed values on the computer screen recorded for comparison. Calculate the difference between the manually and system-measured ullage measurements. During the check, the dredge should be in relatively calm waters to minimize wave induced measurement errors. Difference between manually and system-measured values should not exceed 0.1 foot.

Next, fill the hopper with slurry or water to a level high enough to provide a single, continuous, horizontal fluid plane. Repeat the measurement procedure. The difference between the measured values and system reported values, both light and loaded should be no greater then +/- 0.1 foot under ideal sea conditions.

Ullage Re-Test						Version 2.0
Light (Residual/almost empty) ULLAGE-LEVEL CHECK						
	Manually Measured				DMQ Ullage	
	Port	Stbd	Center	Average (ft	Instrument	Difference (ft)
Fwd				0		0
Aft				0		0
LOADED (Full) ULLAGE-LEVEL CHECK						
	Manually Measured				DMQ Ullage	
	Port	Stbd	Center	Average (ft	Instrument	Difference (ft)
Fwd				0		0
Aft				0		0